

Application Number 10/705,733
Responsive to Office Action mailed January 12, 2007

APR 12 2007

REMARKS

This amendment is responsive to the Office Action dated January 12, 2007. Applicant has amended claims 1, 8, 10, 12, 22, 26, and 30, and added new claim 35. Claims 1-35 are pending upon entry of this amendment.

Allowable Subject Matter

In the Office Action, the Examiner objected to claims 12-16 and 34 as including subject matter that would be allowable if rewritten in independent form. In this amendment, Applicant has rewritten claim 12 in independent form to include certain subject matter recited by the base claim. Applicant submits that claim 12 and the claims dependent therefrom (i.e., claims 13-16) are in condition for allowance.

Claim Objections

In the Office Action, the Examiner objected to claims 10 and 26 for certain informalities. Applicant has amended claims 10 and 26 to address the informalities. Applicant has also amended claims 8 and 22 to correct typographical errors.

Claim Rejection Under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 1 and 3 under 35 U.S.C. 102(b) as being anticipated by Dettloff (US 6,388,628). Applicant respectfully traverses the rejection to the extent such rejection may be considered applicable to the amended claims. Dettloff fails to disclose each and every feature of the claimed invention, as required by 35 U.S.C. 102(b), and provides no teaching that would have suggested the desirability of modification to include such features.

For example, Dettloff fails to teach or suggest detecting at least one radio frequency identification tag having the selected value in the specified memory location in the interrogation corridor if at least a valid partial response is received.

In general, Dettloff recognizes that RFID tags may conflict with one another when responding to a single RFID reader, thereby making it difficult to identify the individual tags. That is, Dettloff recognizes that multiple responses may be generated in response to a single

Application Number 10/705,733
Responsive to Office Action mailed January 12, 2007

request to read multiple tags.¹ In order to address this problem and identify individual tags, Dettloff describes tag identification techniques that involve traversing an N-ary tree to identify the individual RFID tags more efficiently by interrogating two or more identification bits of an RFID tag at a time.

According to the Dettloff approach, tags matching only certain bits of an identifier (referred to in Dettloff as a partial ID) provide responses to an interrogation query. However, Dettloff makes clear that this technique nevertheless requires receiving and decoding a full response from tags matching the full or partial ID specified in the query. The following excerpt of Dettloff makes this point clear:

FIG. 43 is a more detailed flowchart of tag identification. The first command, and one that may be most frequently used, and hence may be assigned the shortest time between amplitude changes, is "reset" (Block 4210). The reader may poll the volume by repeatedly issuing the reset command. When a tag enters the magnetic field and obtains sufficient power to be activated, which preferably occurs with a short period due to the intensity of the projection, it will respond based on its ID. The form of the response is a fully decoded representation and may include signaling during a unique time slot or at a particular frequency, or a combination of these and other techniques. The number of reliable unique responses available generally determines the number of bits of the ID that may be returned to the reader in response to a reset command and any subsequent commands. For example, if 16 unique responses are provided for a command, then 4 bits of the tag ID may be obtained for each command executed. Regardless of how many tags respond (i.e., have the same most significant 4 bits) in each time slot (Block 4220), the reader can know that at least one tag exists in the volume with that ID or partial ID.²

As this passage illustrates, Dettloff describes fully decoding the responses received. Moreover, the tags respond during unique time slots and/or at different frequencies to avoid conflicts.

In contrast, independent claim 1 requires detecting that at least one RFID tag having the selected value in the specified memory location is present in the interrogation corridor upon receiving a valid partial response. In other words, only a portion of the response need be successfully decoded; upon receiving the valid partial response, at least one RFID tag having the selected value in the specified memory location is detected in the interrogation corridor.

¹ Dettloff, col. 5, ln. 6 – col. 6, ln. 4.

² Dettloff, column 22, ll. 44–64.

Application Number 10/705,733

Responsive to Office Action mailed January 12, 2007

In order to support an anticipation rejection under 35 U.S.C. 102(b), it is well established that a prior art reference must disclose each and every element of a claim. This well known rule of law is commonly referred to as the "all-elements rule."³ If a prior art reference fails to disclose any element of a claim, then rejection under 35 U.S.C. 102(b) is improper.⁴

Dettloff fails to disclose each and every limitation set forth in claims 1 and 3. For at least these reasons, the Examiner has failed to establish a prima facie case for anticipation of Applicant's claims 1 and 3 under 35 U.S.C. 102(b). Withdrawal of this rejection is requested.

Claim Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 2, 4-9, 18-22 and 31-33 under 35 U.S.C. 103(a) as being unpatentable over Dettloff in view of Garber (US 6,232,870) or Fukuoka (US 2004/0085208). In addition, the Examiner rejected claims 10, 11 and 30 under 35 U.S.C. 103(a) as being unpatentable over Dettloff in view of Shuey (US 6,816,538). In addition, the Examiner rejected claim 17 under 35 U.S.C. 103(a) as being unpatentable over Dettloff in view of Gitner (US 5,910,987). In addition, the Examiner rejected claims 23-29 under 35 U.S.C. 103(a) as being unpatentable over Dettloff alone or Dettloff combined with Garber or Fukuoka.

Applicant respectfully traverses the rejection. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

Independent claim 18

For example, Dettloff fails to teach or suggest detecting a collision in at least one bit of the specified memory location, and detecting at least one radio frequency identification tag having the selected value in the specified memory location in the interrogation corridor if a collision is detected, as recited by independent claim 18. As explained above, Dettloff describes uniquely identifying a tag by interrogating two or more bits of an identification tag. However,

³ See *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 USPQ 81 (CAFC 1986) ("it is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention").

⁴ *Id.*; see also *Lewmar Marine, Inc. v. Barent, Inc.* 827 F.2d 744, 3 USPQ2d 1766 (CAFC 1987); *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (CAFC 1990); *C.R. Bard, Inc. v. MP Systems, Inc.*, 157 F.3d 1340, 48 USPQ2d 1225 (CAFC 1998); *Oney v. Railiff*, 182 F.3d 893, 51 USPQ2d 1697 (CAFC 1999); *Apple Computer, Inc. v. Articulate Systems, Inc.*, 234 F.3d 14, 57 USPQ2d 1057 (CAFC 2000).

Application Number 10/705,733
Responsive to Office Action mailed January 12, 2007

Dettloff requires receiving a fully decoded response. In fact, Dettloff describes that receiving the response as a "fully decoded representation" may be achieved by "signaling during a unique time slot or at a particular frequency."⁵ Dettloff uses these techniques to avoid a collision so as to receive the necessary fully decoded response. Thus, Dettloff does not teach or suggest detecting at least one RFID tag having the selected value in the specified memory location in the interrogation corridor if a collision is detected. Dettloff provides no teaching of how a collision can be detected, and provides no teaching that suggests a correlation between detection of a collision and the detection the presence of a tag. Dettloff describes techniques for avoiding collisions.

Independent claim 23

Independent claim 23 recites similar limitations to independent claim 1 in computer-readable medium form, and is therefore patentable for at least the reasons expressed above with respect to independent claim 1.

Independent claims 31 and 32

Dettloff fails to teach or suggest detecting a collision between communications from radio frequency identification tags in an interrogation corridor, and generating an alarm upon detecting the collision to indicate that an unauthorized article is present within the interrogation corridor, as recited by independent claim 31. Dettloff also fails to teach or suggest receiving a partial response from a radio frequency identification tag in an interrogation corridor, and generating an alarm upon receiving the partial response to indicate that an unauthorized article is present within the interrogation corridor, as recited by independent claim 32.

As explained above, Dettloff teaches avoiding collisions, such as by signaling during a unique time slot or at a particular frequency, in order to receive a fully decoded response to identify the tags. Dettloff also fails to teach or suggest receiving a partial response from an RFID tag. Garber provides no teaching sufficient to overcome the basic deficiencies evident in Dettloff. Dettloff in view of Garber therefore fails to teach or suggest generating an alarm upon detecting the collision to indicate that an unauthorized article is present within the interrogation

⁵ Dettloff, col. 22, ll. 52-55.

Application Number 10/705,733
Responsive to Office Action mailed January 12, 2007

corridor, as required by independent claim 31, and generating an alarm upon receiving the partial response to indicate that an unauthorized article is present within the interrogation corridor, as required by independent claim 32.

Of course, the claims dependent on independent claims 1, 18, 23, 31, and 32, i.e., claims 2-11, 17, 19-22, 24-30, and 33-34, are patentable for at least the reasons expressed above with respect to independent claims 1, 18, 23, 31, and 32. Moreover, the dependent claims recite a number of additional features that are likewise not suggested by the cited references.

For example, claim 10 recites that the step of detecting at least one radio frequency identification tag comprises analyzing less than all of the received response and determining whether a valid start-of-frame (SOF) field was received. Claims 11 and 33 also require determining whether a valid SOF is received. The Examiner cited Shuey as teaching determining whether a valid start-of-frame field was received. However, even if the responses received by the Dettloff system were to include a start of frame, Dettloff still expressly requires receiving full responses from responding tags in order to traverse the N-ary tree to identify the tags. Shuey provides no teaching sufficient to overcome the basic deficiencies evident in Dettloff. Moreover, even when combined these references fail to suggest analyzing *less than all* of a received response to determine whether a valid start-of-frame (SOF) field was received.

For at least these reasons, the Examiner has failed to establish a prima facie case for non-patentability of Applicant's claims 2 and 4-34 under 35 U.S.C. 103(a). Withdrawal of this rejection is requested.

New Claims:

Applicant has added claim 35. For reasons set forth above, the cited references fail to teach or suggest detecting at least one radio frequency identification tag by validating a first portion of the received response that does not collide for the plurality of radio frequency identification tags without validating a remaining portion of the received response. No new matter has been added by the new claim.

Application Number 10/705,733
Responsive to Office Action mailed January 12, 2007

RECEIVED
CENTRAL FAX CENTER

APR 12 2007

CONCLUSION

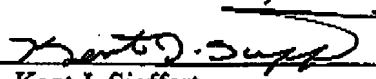
All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date:

By:

April 12, 2007

SHUMAKER & SIEFFERT, P.A.
1625 Seasons Parkway, Suite 300
Woodbury, Minnesota 55125
Telephone: 651.735.1100
Facsimile: 651.735.1102


Name: Kent J. Sieffert
Reg. No.: 41,312